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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ALVO, MARC S

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/892,199

Applicant(s)

ALTHEIMER ET AL

Examiner

Steve Alvo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date 10-16-2003
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

The 35 U.S.C. 112, second paragraph has been dropped as Applicant amended the claims to include "ISO".

The 35 U.S.C. 112, first paragraph has been dropped as the specification discloses "at least about 55%" and "preferably at least about 75%" on page 11, lines 6-8, and "55% to about 90%" on page 12, lines 33-36, of the instant specification. The specification also discloses "...in a TCF sequence so that high brightness (>85 ISO) is reached". Thus support is provided by the specification for the terms. The terms "60%", "70%" and "85%" are within these ranges and were thus disclosed.

The 35 U.S.C. 102 rejection has been dropped with the claiming of "60% ISO".

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over SINGH or WO 99/66119 in view of CANADIAN PATENT 2,132,056 with or without WO 96/09434.

SINGH or WO 99/66119 teaches pulping *Arundo Donax* to form pulp and bleaching the pulp to brighten and whiten the pulp. CANADIAN PATENT 2,132,056 teaches TCF bleaching provides better environmental protection than either chlorine and/or chlorine dioxide (ECF) bleaching processes. It would have been obvious to the routineer to use any well-known TCF bleaching process, such as the bleaching sequences of CANADIAN PATENT 2,132,056, to

provide better protection to the environment than the ECF bleaching sequence of WO 99/66119 (see abstract and claims 21 and 31). Or obvious to include other bleaching stages, e.g. the TCF bleaching stages of CANADIAN PATENT 2,132,056, for the oxygen bleaching stage of SINGH to further brighten and whiten the pulp. Figure 1 of CANADIAN PATENT 2,132,056 teaches a Q-O/O-EOP-PPP bleaching sequence (Table 3). CANADIAN PATENT 2,132,056 further teaches that the Q-stage could follow the O-stage or be between two O-stages, see page 8, lines 15-30 and that the second oxygen stage could be an EOP stage, see paragraph bridging pages 5 and 6. Thus it would have been obvious to substitute O-EOP for the O/O stage of CANADIAN PATENT 2,132,056. It would also be obvious to start the sequence with and O-Q-O/O bleach sequence, see page 8, lines 15-30, and thus an O-QWO-EOP-PPP would have been obvious to the routineer. If this is not obvious then O-Q-P bleaching sequences would have been obvious from WO 96/09434. The Q stage is normally acidic. If this is not obvious from the CANADIAN PATENT, then such is taught by WO 96/09434, page 2, lines 26-37. It is noted that Applicant has claimed many TCF bleach sequences, which comprise the same basic stages as CANADIAN PATENT 2,132,056. The exact order of stages has not been shown to be critical. Applicant in the last Office Action was asked whether or not the sequences were conventional. It has not been argued that they are not conventional bleach sequences. Accordingly, the Office considers these sequences to be known and/or obvious from known sequences. It is noted that the Table of the SINGH text comes from the Robert et al article (supplied by Applicant). SINGH and Robert et al are comparing a single oxygen stage bleaching process to the conventional C-E bleaching process. The oxygen stage is one bleaching process and the CE stages are a conventional bleaching process. They are not stages in the same

multistage bleaching process. See Robert et al, the paragraph bridging pages 49-50, where it is stated "...in the bleaching of kraft pulp (Table III) which the one-stage oxygen-caustic soda treatment was compared with a conventional two-stage treatment comprising chlorination and caustic soda.". The Title of the SINGH TABLE is "Oxygen Bleaching of Kraft Pulp from Arundo Donax". Clearly the oxygen stage is a bleaching stage. It might remove lignin, but it is brightens the pulp.

The argument that SINGH and WO 99/66119 do not describe totally chlorine free bleaching process is not convincing. The one stage oxygen bleaching process of SINGH clearly is totally free as it does not use chlorine or chlorine dioxide. Similarly, WO 99/66119 teaches bleaching arundo donax pulp to a brightness of 55-90% ISO using "...bleaching chemicals can be one of a variety of bleaching compounds known to those in the pulping art. Preferred bleaching chemicals include a mixture of hydrogen peroxide, sodium hydroxide, and sodium silicate (alkaline peroxide bleaching). Alternatively, the bleaching chemical can include chlorine dioxide.", page 10, lines 30-34. Clearly the inclusion of chlorine dioxide is an alternative to the totally chlorine free bleaching with hydrogen peroxide, sodium hydroxide, and sodium silicate (alkaline peroxide bleaching), e.g. without chlorine dioxide. The instant claims only call for a chlorine free process; it does not exclude chlorine dioxide stages. After the oxygen bleaching stage of SINGH or the peroxide bleaching of WO 99/66119 the pulp is totally chlorine free bleached pulp. Besides the CANADIAN Patent '056 teaches that further bleaching stages brighten oxygen bleached pulp to values greater than 85 ISO (Table 2 and the paragraph under Table 2). It would have been obvious to further brighten the oxygen bleached pulp of SINGH or WO 99/66119 using the multiple bleach stages of CANADIAN Patent '056. It would have been

additionally obvious to the routineer to use any well-known TCF bleaching process, such as the bleaching sequences of CANADIAN PATENT 2,132,056, to provide better protection to the environment than the ECF bleaching sequence of WO 99/66119 (see abstract and claims 21 and 31).

Applicant has not shown the claimed brightness to be unexpected over the art of record, e.g. a brightness of 55-90 %ISO was expected from the teachings of WO 99/66119.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Alvo whose telephone number is 571-272-1185. The examiner can normally be reached on 5:45 AM - 2:15 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steve Alvo
Primary Examiner
Art Unit 1731

msa